

Regional Connections to National Authority Files

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Abstract

Local and regional authority files exist to cover gaps in national and international authority files. These types of authority files should not exist alone if they are going to be fully utilized by other institutions that may have resources about the same individuals or topics. This article discusses how the Western Name Authority File, a regional controlled vocabulary of personal names and corporate bodies, can link to larger authority files such as the Library of Congress Name Authority File and Wikidata. Workflows and issues encountered with linking this local authority file to larger authority files are discussed.

Keywords: authority control; controlled vocabularies; NACO; name authority records; reconciliation; Wikidata

Introduction

When working with library metadata, best practices suggest that certain types of data should be governed by controlled vocabularies. These controlled vocabularies lay out specific standards and criteria for including terms within the vocabulary as well as instructions on how to create the authorized form of the access point and any alternate forms. One of the most extensive controlled vocabularies is the Library of Congress Name Authority File (LCNAF), which has contributors from many institutions creating name authority records (NAR) for personal names, corporate bodies, family names, and other entities. While a large number of records for names used in library metadata are added to the LCNAF, there are many instances where names reside in library metadata records with no corresponding LCNAF record. At times, individual institutions

will have a local authority file with this type of information that may reside in an Integrated Library System (ILS) or perhaps in a simple spreadsheet of names.

In 2016, the University of Utah J. Willard Marriott Library began developing the Western Name Authority File (WNAF)¹ as a controlled vocabulary of personal names and corporate bodies used in metadata records from historical digital collections created by several institutions throughout the Western United States.² Since the majority of names in the WNAF have only local or regional significance, there were very few records in the LCNAF for these individuals or corporations. This article will discuss how the WNAF and LCNAF intersect, along with different projects that are underway to create or improve LCNAF records based on WNAF data.

Information about linking WNAF records to Wikidata is also discussed, showing future possibilities for linking local authority files with an international vocabulary. Linking WNAF records to LCNAF and Wikidata opens up the possibility of linking to additional vocabularies such as the Virtual International Authority File (VIAF), International Standard Name Identifier (ISNI), Faceted Application of Subject Terminology (FAST), and Social Networks and Archival Context (SNAC), among others.

Literature Review

Besides the long-standing cataloging conventions governing authority control for bibliographic information, there is a well-established collaborative process known as the Name Authority Cooperative Program (NACO), which is part of the Library of Congress Program for Cooperative Cataloging (PCC). Both ILSes (such as Ex Libris' Alma and Innovative's Sierra) and third-party vendors like Backstage Library Works have established workflows for MARC-

based authority control in an ILS, but there are limited options for authority control in non-bibliographic digital repositories. Additional systems for managing name authority control have been developed over the past decade, including ISNI. National libraries and similar agencies can contribute directly to ISNI, but it also harvests NACO data from VIAF. Despite these national and international efforts, there is still a great need for local name authority management.

To help mitigate the time-consuming process of traditional authority control, a new process called “NACO Lite” was proposed in March 2016 by the PCC Task Group on Identity Management in NACO,³ though it was first described by task group chair John Riemer in 2015.⁴ One of the primary goals of the program was to lower the barriers to creating NARs by proposing new minimum requirements for NACO authority records. Riemer would later advocate that NARs stemming from digital library projects and institutional repositories should be included in databases like the LCNAF.⁵ However, he also noted some negative feedback to the NACO Lite program, including confusion about the “core” elements needed in records and a general dislike of the program name.⁶

Wikidata,⁷ an open data knowledge base hosted by the Wikimedia Foundation, has also been investigated as a repository that provides an easier way to manage authority data. After being launched in 2012, many institutions quickly realized its potential for changing the nature of authority control work⁸ and began experimenting with the database. Joachim Neubert described how Wikidata was used to link two German personal name authority databases in the field of economics,⁹ while Luigi Catalani detailed similar projects happening in Italian libraries.¹⁰ John Lubbock showed how several libraries were both using Wikidata to fill gaps in their NARs and

exporting their own authority data to enhance the database, primarily through Wikimedian-In-Residence programs.¹¹ Giovanni Bergamin and Cristian Bacchi discussed how they worked on a multi-institutional project which used Wikidata and the Wikibase Data Model to store UNIMARC data.¹² Both Tom Adamich¹³ and Theo van Veen¹⁴ explored how Wikidata could transform both the process of and need for library-generated authority control in the future. These practical findings were strengthened by the 2019 ARL White Paper on Wikidata, which encouraged changing the standards for bibliographic records to allow for alternate external data sources, including Wikidata, to be used for the purpose of name heading establishment, noting that “[a] more collaborative and open approach to the creation of structured data could allow libraries to concentrate efforts on unique collections” and “focus on creating and hooking into a network of names, rather than on a one-to-one relationship with the Library of Congress.”¹⁵

Western Name Authority File

The WNAF was an Institute of Museum and Library Services (IMLS) grant-funded project awarded to the Marriott Library in 2016. The primary goal of this project was to investigate the creation of a regional controlled vocabulary of personal names and corporate bodies in digital collections metadata records throughout the Western United States.¹⁶ The grant included four major steps:

1. Investigate potential data models and existing metadata that could be included in WNAF.
2. Evaluate open source tools that can be used for creating and maintaining this authority file.
3. Conduct a pilot implementation using metadata submitted from multiple partner institutions.

4. Assess the outcomes of the project and its effects on users of local digital repositories, the Mountain West Digital Library, and the Digital Public Library of America.

Throughout this project, it became clear that the LCNAF had a role to play, even though the majority of names in the WNAF dataset were local or regional names that were not currently represented in the LCNAF. By using a reconciliation service in OpenRefine, WNAF names were reconciled against the LCNAF to see how many names resided in both vocabularies. Out of 55,314 personal names reconciled, 7382 (13.35%) were in both WNAF and LCNAF.

From this reconciliation work, two projects connecting WNAF data to LCNAF were identified. First, several LCNAF records did not include a death year in the authorized access point, but the person was most likely deceased. Research could be completed for those types of records to identify the death year to include in the LCNAF records and update the authorized access point. Second, a large set of WNAF records did not have a corresponding LCNAF record, but the name had been used by multiple institutions participating in WNAF. Research about these names could be completed to see if they were good candidates for creating LCNAF records through the NACO process.

Project 1 : Death Date Additions

After reconciling WNAF names against the LCNAF using OpenRefine, we isolated authorized access points that had a birth year but did not have a death year as part of the access point. We were able to identify 186 names with a birth year and no death year where the person was born before 1918, so they were most likely deceased. There were 203 names without a death date, but

the person would have been between 70 and 100 years old. There were an additional 195 names of people who were under 70 years old and had no associated death date, so we did no additional research about those people since they were likely still alive.

The workflow for identifying death dates that could be added to LCNAF records was reasonably straightforward. Once the names had been identified as potential records to update, they were added to a Google sheet that was shared with the project's student research assistants. They would first search Find a Grave¹⁷ to see if they were able to identify a person with the exact name and birth year that appeared to be a potential match. If there were multiple people with the same name and birth year, they would review the records further to see if any location data in the LCNAF record or related digital library metadata records corresponded with the location data provided by Find a Grave. If not, then it was not considered a good enough match. If the information did seem to prove that this was the same person, then the student would enter the death date in the Google sheet as YYYY-MM-DD along with the URL where they found the information.

If the Find a Grave information was not conclusive, then the student would search the Daughters of Utah Pioneers name index¹⁸ to see if they could find a potential match. If this still did not return useful results, the student then searched Google to see if they were able to find any other credible website with information about the person. Since it would be possible to spend many hours with this type of search, we had the student limit their time conducting Google searches to five minutes per name. After the student completed their work researching these names, the

information was sent to a NACO-trained cataloger for review. Once they determined that a match was correct, they would update the LCNAF record in OCLC Connexion as necessary.

Out of 186 records for people that would have been over 100 years old, death dates were identified and records were updated for 165 people. Out of 203 records for people between 70 and 100 years old, death dates were found for 89 people and those records have been updated. Additional work to update the remaining records is ongoing.

Project 2 : New Name Authority Records

The second project was to identify names that did not currently have a record in the LCNAF, but the names were good candidates to include in the LCNAF since they had been used by more than one institution or had items in at least three collections. This included over 2500 potential LCNAF records that could be created. Since it takes many resources to complete the research and record creation for a name to go through the full NACO process, we created a workflow that would allow a student research assistant to conduct some basic research and then pass that information along to the NACO-trained cataloger for final review.

The basic steps for the student research assistant to complete were:

- Search LCNAF for an exact or close match
- Search the name in the project partners' digital libraries and archival finding aid collections
- Search for the name in other potential sources of information such as Find A Grave, Daughters of Utah Pioneers Name Index, Wikipedia, etc.

The student would enter the results of their searches, including the form(s) of the name that they found, information about the person, and URLs to the relevant web pages into a Google sheet. Once that information was in one tab of the Google sheet, a second sheet with several formulas parsed the information into a simple NACO record in a tab-delimited text file. A NACO-trained cataloger would review that information to make sure that it was accurate and complete. Once verified, the cataloger would use additional formulas in the Google sheet to format the record according to the MARC21 Format for Authority Data.¹⁹ Using the "Delimited Text Translator" feature of MARCEdit, the cataloger would convert the spreadsheet into a file of MARC records that could be imported into the OCLC online authority save file for final review before submitting to the LCNAF.

As of this writing, the student research assistant has completed research for 531 names, 15 of which have been reviewed by the cataloger and submitted to the LCNAF. Through the student's review, an additional 147 names were found to have an existing LCNAF record that was not found in the initial OpenRefine reconciliation process at the beginning of the project. Details about the student's and cataloger's workflows can be found on the WNAF project website.²⁰

Quality Review

Following the student's work on the spreadsheet of names to update, a NACO-trained cataloger checked the results to see whether proposed matches were correct or whether new sources for a death date could be found for those names for which the student found no matches. Initially, when the cataloger confirmed that the student had correctly identified a death date in a

trustworthy source, the cataloger proceeded to update the NAR. This takes a large amount of time, and if a cataloger's primary responsibilities demand using their time elsewhere, progress reviewing a backlog of authority-related questions may be slow.

For this project, it took over 18 months to review the first 133 names in the spreadsheet. In the course of that time, some of the names in the spreadsheet had been updated by other institutions. Others for which the student had not found good sources for death dates could now be completed due to new sources available online, as in cases where the person had recently passed away. Occasionally, the webpage to the resource the student found had become a dead link during the intervening time. The cataloger decided to forgo updating each LCNAF record as it was reviewed and wait until all names had been reviewed before making the record updates. This routine allowed another 310 names to be reviewed in the course of three months. The routine was as follows:

1. For each name, check LCNAF to see if the NAR had been updated by another institution after the student completed their research.
2. If the student did not find a death date for the individual, search the name using Google and FamilySearch. If a likely record is found, enter the URL to the source of information.
3. If the student found a death date, check the source of information against known details of the name in the NAR to see if the identification is reasonable, questionable, or wrong.
4. Record the conclusion in the project spreadsheet.
 - a. For those where the match looks highly likely, flag for updating the NAR.
 - b. If questionable, ambiguous, or wrong, cite the reasons.
 - c. If an alternative candidate is found, enter the link for the source.

Of the 389 records, the student did not find any death dates for 135 names, of which the cataloger found an additional 30 certain or plausible matches. The possible matches depend upon whether the assumed birth year given in the NAR was wrong or whether the new source, such as an obituary, reported a different birth year. The new matches were occasionally due to recent deaths since the time when the student began their research.

The student found a death date for 254 of the names. In reviewing the student's proposed updates to existing NARs, a reasonably large percentage of the names were correct and often came from certain genealogical websites, such as Find a Grave. Occasional Wikipedia entries or online obituaries from mortuaries, newspapers, and other sites contributed to successful matches.

Of the 254 death dates, 49 were incorrect or highly doubtful. Errors in identification included failing to recognize differences in a middle name or birth year, spelling differences of surnames, evidence that the subject was still living, the form of name being incorrect in the spreadsheet at the start of the project, an assumed equivalence of two distinct persons, or incorrect matches identified by OpenRefine during the reconciliation process.

The cataloger noted additional websites that could be fruitful for the student to check. For names associated with the Church of Jesus Christ of Latter-day Saints, various databases such as *Early Mormon Missionaries, 1830-1930* provide genealogical or biographical information on individuals.²¹ For names of individuals in professional areas, obituaries often are found in newsletters or websites for professional societies or organizations. Depending on how prominent the individual was, there may also be a Wikipedia article.

Some obituaries are worded so that the exact date is not stated; rather, the subject died on a given day in the past week before the article is printed. One can figure out the exact date either by counting back from the date of publication (assuming the day of the week is given) or by obtaining a calendar for the year from online sites such as [Create a Calendar for any Year](#).²²

Issues Encountered

Following are examples of various issues found when reviewing these potential updates to NARs. First is the case of Sarah Lee Anderson. The name authority identifies her as “b. 1926, from Georgia, attended Clark College, worked as a domestic, special education teacher, and became an ordained minister.”²³ The student found an obituary for Sara Lee Anderson, who died in Hugoton, Kansas, on October 10, 2017, but that person was a native of Kansas with a completely different life story and a different spelling for her first name. The cataloger searched for other sites about the minister but found no report of Sarah’s death.

When the student found no records that provided further information on a person, the entry in the spreadsheet was to be highlighted in yellow. A new Google search by the cataloger occasionally found a match, perhaps in an obituary. The *Deseret News* commonly has obituaries for people who either died in Utah or had a Utah connection. Sometimes, the answer being sought appears in a relative’s obituary. One example is the case of Leland Hargrave Creer, who was President of Weber College and later a history professor at the University of Utah. His obituary does not appear online, but that of his wife, Verona M. Creer, includes his year of death.

Occasionally there were issues with the form of name being searched. One name was “Robinson, James, 1868- ”. However, the original collection referenced for this project was a set of 1912 letters exchanged between George Albert Smith and Joseph E. Robinson, a missionary in El Paso, Texas. A cataloger had previously deciphered the abbreviated first name in the signature as “James,” but the postscript is clearly signed “Joseph.” After correcting the name to “Robinson, Joseph E.,” the search needed to be repeated. An LCNAF record exists for Joseph E. Robinson who was an innkeeper living in 1832 and most likely a different person. Sometimes we still would not have enough information to identify the person, much less figure out his birth and death dates. A search in *Early Mormon Missionaries, 1830-1930* brings up a likely candidate who was an active missionary during the right time, Joseph Eldridge Robinson, and his vital dates are given, so we may establish a new NAR for him.

Some records had conflicting information in the NAR relating to the correct birth or death dates. One problematic case is that of Lewis Crum Bidamon, whose year of death is included in the NAR.²⁴ The student hoped to include a birth year based on a Find a Grave record. That memorial is for the correct individual, but it gives the birth year as 1804 while the photograph of the headstone clearly shows 1806.²⁵ The existing NAR notes that different sources suggest different years for his birth, so this question cannot be resolved yet.

Another issue included records that may have had information transcribed incorrectly in certain sources. One problematic name was F. J. Critchlow, an Indian agent in a record from the Utah American Indian Digital Archive.²⁶ The student found a NAR for someone with this name who was born in 1869. The source document was a letter from 1882, so it is most likely not the same

person. Upon examination of the original, the letter is clearly signed “J. J. Critchlow,” and available sources identify the subject as “John J. Critchlow.”²⁷ A printed government report from the same agent apparently includes a typographical error that rendered his first initial as “F.”²⁸ A good match for the subject appears in Find a Grave as well, giving his full name as John James Critchlow.²⁹ A new NAR could thus be created from the sources found.

Since the NACO process is time-consuming, identifying these types of projects can help to create new or update existing NARs as needed, though the amount of time for research as evidenced by the above examples can be prohibitive. It may be easy to devote student time towards the research, but finding time of a NACO-trained cataloger to verify and finalize the records can be difficult as they manage a myriad of other projects assigned to them. These examples have also shown that it takes a large amount of training for a student employee with no authority experience to learn all of the intricate details for accomplishing this type of work. Additional training on using existing bibliographic sources containing the names may have helped prevent some of the false matches between the subject of the NAR and the person for whom a potential matching record is found. This also shows the need for having close oversight of the project by a NACO-trained cataloger in order to catch issues earlier in the process and correct errors. For this project in particular, it would have been preferable to incorporate the cataloger into the project earlier by having them receive reports of names to be checked soon after the student worked on the name. This could have reduced errors, provided more training opportunities for the student and wouldn't have led to such a large backlog of names to review after the student completed their work.

Connecting WNAF with Wikidata

In addition to connecting WNAF with LCNAF, we explored the possibility of connecting this data with Wikidata. We took a dataset of 87 personal names from WNAF which were used by at least three institutions to test reconciliation against Wikidata. We used OpenRefine's reconciliation service for this process. The list of 87 personal names were reconciled against Wikidata items with entity type "human" (Q5).³⁰ This process returned 30 names with only one or two possible matches. These were manually reviewed and were all found to have matches. No matches were found for 21 names. The remaining 36 names returned up to 25 possible matches. These were more generic names that would require more information in order to match accurately and successfully.

Of the 30 names that were matched, we pulled the Wikidata item ID into our OpenRefine data. Many of these had other identifiers already incorporated into the Wikidata item metadata, including 26 that had LCNAF IDs.

Because of the NACO work that has already been completed on names in the WNAF, we reconciled the list again using any LCNAF IDs already available as an additional match point. Eighteen of the names on the list had existing LCNAF IDs. The results included 39 names that were either matched exactly using the LCNAF IDs or that returned only one or two possible matches that were manually reviewed and determined to match. Fifteen names returned no matches. The final 33 names returned up to 25 possible matches. These were more generic names that would require more information in order to match accurately and successfully.

We looked more in-depth at the types of information present in Wikidata for the 39 matched names. We found that:

- 35 had LCNAF IDs
- 33 had VIAF IDs
- 22 had ISNI IDs
- 32 had SNAC Ark IDs
- 29 had FAST IDs

We also found that many had additional biographical information present that could be incorporated into our data:

- All 39 had birth dates
- 38 had death dates
- 24 had a birthplace
- 22 had a death place
- 38 had at least one occupation specified

The presence of the LCNAF IDs in the reconciliation process helped to reduce the number of names resulting in either no matches or many matches. Only 11 of the names matched with Wikidata items, however, had our original LCNAF ID also present in the Wikidata item. Seven of our names with LCNAF IDs did not have those IDs present in the Wikidata item, while 24 of the Wikidata items with LCNAF IDs did not have those IDs present in our WNAF data.

With the LCNAF IDs, reconciling against Wikidata could be completed more quickly and accurately. We estimate that we could reconcile about 45% of the ~2500 names used by multiple institutions. Either approach to reconciliation would still result in over half of the names requiring manual review.

For the remaining ~47,700 names in WNAF used by only one institution, we would need to investigate separate match rates. For those names not currently in existence in Wikidata, we would need to determine if they qualify for addition using the Wikidata:Notability guidelines.³¹

With records correctly matched, it would be possible to upload WNAF identifiers into the Wikidata items. This could connect WNAF records to other vocabularies already present in Wikidata, such as SNAC, ISNI, and other authority files, linking WNAF to the greater linked data community. It would also be useful to upload the LCNAF IDs present in WNAF into the Wikidata items that do not contain that identifier to further enhance the existing Wikidata metadata.

Conclusion

Now that the initial WNAF pilot project has been completed, plans are being developed for how this regional controlled vocabulary can be fully implemented and expanded to include more institutions in the Western United States. The project investigators from the first WNAF grant along with a few of their project partners plan on conducting a national survey in the near future to gather more information about the needs of different institutions for implementing this type of regional vocabulary as well as to discover any similar or related projects that could be integrated

into the WNAF. Once this information has been gathered, funding for the full implementation of WNAF will be sought in order to continue to build a resource that will be most useful to the institutions contributing to the project and other institutions hoping to use the data. The full implementation of WNAF will also develop ways to link more fully with the LCNAF, along with other projects and vocabularies such as Wikidata and the SNAC project.

While national and international authority files are extremely important for names used within library metadata, it is not always practical to create NARs to include in national vocabularies such as the LCNAF. Local or regional authority files will always exist, but there are ways to link those local files to the larger network of data. This article has included information on different projects that have been conducted to link a regional authority file to national and international controlled vocabularies. These types of projects can be replicated by other institutions to help link other vocabularies with the international web of data.

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